

From: [Pradeep Mugunthan](#)
To: [Jen Mott](#); [Dana Bayuk](#)
Cc: [John Edwards](#); [Mike Riley](#); [Miao Zhang](#); [Binglei Gong](#); [John Renda](#); [Sheldrake, Sean](#); [Lance Peterson](#) (PetersonLE@cdmsmith.com); [Matt Gamache](#) (gamachem@cdmsmith.com); [LARSEN Henning](#); [Rob Ede](#); [Carl Stivers](#); [Ben Hung](#); [DeMaria, Eva](#); "Mike Murray"; [James Peale](#) (jpeale@maulfoster.com); [Myron Burr](#) (myron.burr@siltronic.com); [Scott Coffey](#); [Bob Wyatt](#); [Patty Dost](#); [Sarah Riddle](#); [Mike Gefell](#); [Kerry Gallagher](#) (kgallagher@maulfoster.com); [Madi Novak](#); [Bruce Marvin](#) (BMarvin@Geosyntec.com); [Cindy Bartlett](#) (CBartlett@Geosyntec.com); [Dan Hafley](#); [Henning Larsen](#); peterson.jennifer@deq.state.or.us; [Karen Kosiarek](#) (KKosiarek@geosyntec.com); poulsen.mike@deq.state.or.us
Subject: RE: Gasco: GW Model - Fill WBZ Water Budget Table
Date: Wednesday, May 11, 2016 12:06:53 PM
Attachments: [Table 2 - Updated.xlsx](#)

Dana,

In the table we sent out yesterday, Columns O and R in Table 2 (New) that show fluxes in gpm do not reflect the higher recharge. These columns were carried over from a working version and pasted in as values rather than formulas. I have attached a corrected version of Table 2 (New) that reflects the changes to the flow rate corresponding to the higher recharge. Please note that this does not affect any of the calculations in Columns W through AC as they are all based off the in/d rates rather than the gpm rates. Also, there are no changes to Table 2 (old) – the values shown in Columns O and R therein were carried forward from the model outputs presented last year.

Thanks.

Pradeep

Pradeep Mugunthan, Ph.D., P.E.

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From: Jen Mott

Sent: Tuesday, May 10, 2016 5:59 PM

To: Dana Bayuk <BAYUK.Dana@deq.state.or.us>

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Subject: Gasco: GW Model - Fill WBZ Water Budget Table

Dana,

The following email is provided on behalf of Pradeep.

Hello Dana,

Attached please find an updated version of Table 2 with water budget items for the Fill WBZ completed. In the attached Excel file, we are providing two versions of the table: Table 2(New) assumes 50% recharge to the pervious areas; Table 2(Old) assumes 20% recharge to pervious areas (as used in the model presented in June 2015). As described in our previous correspondences, a steady-state simulation for Feb-Mar wet period is not appropriate due to substantial fluctuations in both precipitation and river stage, and therefore a steady-state flow budget is not included (this row has been left blank).

We are proposing to use a recharge rate of 50% for the pervious areas in the Fill WBZ. The K values in the Fill WBZ will be adjusted during model calibration within the range of K's determined from the single-well constant-rate tests that were recently completed.

For Fill WBZ calibration, we proposed using the Feb-Mar 2014 data period. We propose changing the wet period calibration to Feb-Mar 2016 for the following reasons:

- We installed transducers in upland Fill wells in February 2016 and we now have high-frequency groundwater level data in 5 upland wells that were previously not available
- 2015-2016 winter has been a very wet year, and therefore, provides an opportunity to evaluate model performance at a reasonably extreme wet condition

If DEQ approves the recharge rate of 50% proposed above and our proposal to move to 2016 Feb-Mar conditions for wet period calibration, we can proceed with completing the model calibration for both the Fill and Alluvium WBZs.

If there are any questions or concerns please let me know.

Thanks.

Pradeep Mugunthan, Ph.D., P.E.

Thank you,
Jen Mott ☺
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